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ABSTRACT

Relaxation training helps the individual handle tension through concentrating upon efficient use of muscles. A program of progressive relaxation can be easily incorporated into elementary and secondary schools. Objectives of such a program include the following: (a) to learn to relax technically for purposes of complete rest (deep muscle relaxation), and (b) to learn to relax away needless tension in order that everyday activity might proceed with greater efficiency (differential or selective relaxation). In a series of lessons, the student can be taught to recognize the tension signal in specific muscle groups. The recognition phase is accomplished while the student is moderately contracting a specified group of muscles. Once identified, less contraction often elicits the signal even though there may be no visible contraction. If the training has been successful, such unwarranted tensions are simply relaxed away and the advent of a new habit pattern of efficiency is thus encouraged. Relaxation programs can be conducted without sophisticated apparatus for support and testing Biofeedback devices may be available for school use within a decade. (JS)

RELAXATION: A FOURTH "R" FOR EDUCATION

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Almost anyone can write about relaxation. The stem word, "relax," is employed in everyday conversation connoting a sense of recreation, "letting go" or getting away from it all. Relaxation is generally conceptualized as a good idea; something one would like to have more time to do more often. The antithesis of relaxation is tension. These days, conversations easily turn to topics such as "being up tight," overstimulation and the nature of "nervousness." People get lots of headaches and are familiar with a large array of non-prescriptive drugs including asperin, sleeping pills and tranquilizers which are offered for the general relief of a multitude of tension problems.

Popular magazines repeat the tension theme again and again. [1] The sale of drugs prescribed by the physician to relieve severe tension-related symptoms, in addition to all of the non-prescriptive medicines available, is further evidence of the tension problem in contemporary America. "Take a pill" has become the expedient therapy for the beleaguered physician who is literally surrounded with tense patients who exhibit symptoms of high blood pressure (hypertension), indigestion, impending nervous breakdown and muscular spasm.

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But when the prescriptions run out, when the patient fails to take his pills as directed or when the "take it easy" advice of the doctor is ignored or not understood, tension problems return.

What does the physician mean when he tells his patient to "take it easy" or "relax?" Broadly speaking, he is asking the patient to exhibit less behavior often indicating the type of behavior that may be causing the problem. Specifically, the doctor is asking the patient to relax his muscles because all behavior depends upon the extent and duration of muscular contraction. The real problem behind the fact that warnings such as "take it easy" or "relax" are not very valuable verbal directives for the patient is the little known fact that in order to relax the muscles, one needs training. Learning to relax is a motor skill demanding precise instruction just as learning to swim requires a series of lessons. The physician is often not familiar with the techniques of relaxation training and even when he has been trained to teach such techniques, his busy schedule will not permit him to do so.

Relaxation therapies outside of medicine, offered for individuals who may have tension symptoms but who are not so ill that they seek advice from their doctors, have been suggested for public school curricula. Earlier this year a variety of therapies were explored on Barbara Walters' noontime program, "Not for Women Only." During

the week, prominent exponents of biofeedback, transcendental meditation, yoga and techniques now associated with transpersonal psychology were explored. During the same week, Barbara Brown was interviewed on the Today Show (NBC) in connection with the publication of her new book, New Mind New Body [2] which explores a number of applications of biofeedback for the general public. Although the theories involved and the requirements for learning such new techniques are often vastly different, they all have the common goal of relaxation. In only a few instances have the leaders of such programs given operational definitions of the relaxed state, however. For example, those promoting alpha therapy commonly associate the voluntary generation of alpha brainwaves with the relaxed state. Others suggest that the galvanic skin response (GSR), blood pressure and the use of oxygen are associated with relaxation. It is amazing that the most obvious indicator of tension, the one most easily associated with behavior, muscular tension, is often ignored. Whereas all of these indicators are measurable with electronic detectors and other devices, only muscular tension is visible and may be judged without apparatus. Although miniturization and electronic desensitization of apparatus now employed in the biofeedback laboratory will be ready for school use in the near future, perhaps as soon as ten years, there is only one sensible program available at the present time which requires no sophisti-

cated apparatus and requires a minimum training period for teachers. The tension control program that can be implemented tomorrow in any school concentrates upon the efficient use of muscle.

When our muscles contract, we become more or less tense depending on our purposes. Sometimes the contractions serve us well; at other times, however, the muscles tighten without our knowledge and a habit pattern of tension leading to a number of problems is the result. Relaxation training requires the individual to come to grips with tension first hand. In a series of lessons he is taught to recognize the tension signal in specific muscle groups, an identification of what Jacobson has called the muscle sense of Bell.[3] The recognition phase is accomplished while the student is moderately contracting a specified group of muscles. Once identified, less contraction often elicits the signal. Students who are highly trained can identify the signal even though they may show no visible contraction. Students are encouraged to note those times during the day when certain events such as driving a car produce more tension than is necessary. If the training has been successful, such unwarranted tensions are simply relaxed away and the advent of a new habit pattern of efficiency is thus encouraged. Like any motor skill, tension control must be practiced on a regular basis.

Muscular relaxation therapy, inclusive of the first applications of biofeedback, can be traced to the singular

efforts of a pioneering physician named Edmund Jacobson. Jacobson began serious research on the subject of relaxation at Harvard in 1912. Amazing as it might seem, this same physician is active today continuing his experiments at the Laboratory for Clinical Physiology in Chicago. Although he was widely published in psychology by 1930, a unique relationship with the Bell Telephone Laboratories enabled Jacobson to record muscle voltage as miniscule as a fraction of a microvolt which in turn helped him to validate his technique of progressive relaxation. In October, 1974, he spoke on personal energy conservation at the first meeting of the American Association for the Advancement of Tension Control (AAATC). This new society has attracted talented psychologists, physicians, physical therapists, psychiatrists and educators from all parts of the United States. Joseph Wolpe, whose work in counter-conditioning is well known and Johan Stoyva who is equally well known for his work in headache therapy employing biofeedback presented papers. Like others, they acknowledged the stimulation they had received earlier in their careers from the work of Jacobson.

Those attending the first AAATC meeting agreed that it would be important to introduce programs of tension control in the public schools especially at the elementary level. Graduate courses have been established at Michigan State University, George Williams College and the University

of Wisconsin's Superior campus to introduce the techniques of teaching neuromuscular relaxation. One major pilot project completed with the cooperation of the Chicago Heights elementary schools [4] and a major study at George Williams College [5] have shown that tension control programs yield positive results if only to alert a larger segment of the population to the nature of tension. The first program outside of medicine was initiated by Dr. Jacobson who trained a number of Naval officers during World War II who in turn trained pilots. [6] The most logical group to attract within the school system for retraining are those teachers who specialize in physical education, but school psychologists and those working presently with special learning disabilities are also potentially available as facilitators of local programs.

When and if relaxation training is given "Fourth 'R'" status in the public schools, there will be two primary objectives: (1) To learn to relax technically for purposes of complete rest (deep muscle relaxation) and (2) To learn to relax away needless tension (differential or selective relaxation) in order that everyday activity might proceed with greater efficiency. Those who have trained children to relax find that they enjoy learning to run themselves technically and they experience a sense of true discovery when they find out just how their muscles work. Training is completely devoid of suggestion in the hypnotic sense.

Students are not asked to "imagine" or "turn their thoughts inward." As training proceeds, however, most students come to understand just how the muscles participate in the act of imagination and those who have learned control of the vocal and eye muscles can virtually obliterate imagination altogether. College students report that they can get to sleep better after training and that tension associated with test-taking is often controlled.

A course in muscular tension control makes good sense to most students. The muscles, after all, are the body's performers. Facial muscles, particularly the frontalis muscle of the forehead, that are used inefficiently often result in tension headaches. Lip biting, squinting, nervous finger tapping and leg kicking are overt signs of tension that may actually interfere with the thought process. Trained individuals who approach the goal of a new habit pattern of efficiency will often recognize these wasted efforts and simply discontinue the tension. Living and working relaxed is simply better than living tense. The problem of implementing a program in tension control seems to be connected to our distorted view of the mind. A modern view of "mind" is one which acknowledges the participation of muscle in all mental activity. The relationship between the muscles and thinking was shown years ago by a series of carefully controlled experiments by Jacobson which have become classic. [7] His conclusion

in the Thirties was much as it is today that it would be naive to say we think with our muscles in the tradition of Watsonian behaviorism. But it is simply impossible to think without muscle. The latter part of the conclusion is a bitter pill for many academicians to swallow. As a result, almost any program aimed at relaxing the brain or visceral system is easier to sell to those who hold tenaciously, without knowing it, to the Cartesian principle of mind over matter. Dr. Barbara Brown herself states on the jacket of her new book, New Mind, New Body, that she is reporting on how the mind can control the body. This kind of thinking represents the greatest obstacle for the "Fourth 'R'." The lowly muscle has not yet found its proper place in education. But during the next few years, due to efforts of those who are presently associated with the AAATC [8], we should begin to see some real progress in the war on tension. A sign of progress was given at the annual convention of the American Alliance for Health, Physical Education and Recreation at which time Dr. Edmund Jacobson became a 1974 recipient of the Alliance's highest award, the Anderson Honor Award, for those outside the alliance contributing to the goals of health and physical education. Jacobson's pioneering work in relaxation was cited specifically. Regional workshops are currently being planned by the AAATC to train teachers in specific techniques associated with tension control so that the implementation of the "Fourth 'R'" can proceed as rapidly as possible. The program is worthy of the attention of educators everywhere.

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7. Jacobson, Edmund, "Electrical Measurements of Neuro-muscular States During Mental Activities." American Journal of Physiology, 91(2): 567-608, Jan., 1930. (This was the first of a series of eight research reports published in the American Journal of Physiology on the electrical measurement of mental activities.)

8. The American Association for the Advancement of Tension Control is open to membership of interested persons. Information may be obtained from Dr. Joseph McGuigan, Dept. of Psychology, Hollins College, Virginia, 24020.)